for about 15 minutes. The microcups were top-sealed completely and no air pocket was observed. The thickness of cured adhesive layer was about 5–10 microns as measured by a Mitutoyo thickness gauge.

Example 8

Top-Sealing the Microcups by a Two-step (Overcoating and Moisture Curing) Process

The experiment of Example 7 was repeated, except the Norland adhesive was replaced by Instant Krazy™ glue from Elmer's Products, Inc., Columbus, Ohio. The overcoated adhesive was then cured for 5 minutes by moisture in air. The microcups were top-sealed completely and no air pocket was observed. The thickness of cured adhesive layer was about 5–10 microns as measured by a Mitutoyo thickness gauge.

Example 9

Top-Sealing the Microcups by a Two-step (Overcoating and Interfacial Polymerization) Process

The experiment of Example 8 was repeated, except the electrophoretic fluid was replaced by a 3,4-dichlorobenzotrifluoride solution containing 0.3 wt % of tetraethylenepentamine (Aldrich) and the Instant Krazy™ glue was replaced by an aliphatic polyisocyanate (Desmodur™ N 3300 from Bayer Corp.) solution in anhydrous ether. A highly crosslinked thin film was observed almost immediately after overcoating. The dielectric solvent was completely sealed inside the microcups after the ether was evaporated at room temperature. No air pocket was observed.

While the present invention has been described with reference to the specific embodiments thereof, it should be understood by those skilled in the art that various changes may be made and equivalents may be substituted without departing from the true spirit and scope of the invention. In addition, many modifications may be made to adapt a particular situation, materials, compositions, processes, process step or steps, to the objective, spirit and scope of the present invention. All such modifications are intended to be within the scope of the claims appended hereto.

What is claimed is:

1. A process for the preparation of a semi-finished display panel, which process comprises the steps of:

a) coating a layer of a thermoplastic, thermoset or precursor thereof on a temporary substrate layer followed by embossing the coated layer with a male mold or imagewise exposing a layer of a radiation curable composition coated on a temporary substrate layer followed by removing unexposed areas, to form an array of microcups;

b) filling the microcups with a charged pigment dispersion in a dielectric solvent or solvent mixture;

c) top-sealing the microcups with a sealing composition having a specific gravity lower than that of said dielectric solvent or solvent mixture; and

d) applying a conductor layer or a permanent substrate layer onto the top-sealed microcups.

2. The process of claim **1** wherein said thermoplastic or thermoset precursor is selected from the group consisting of polyvalent acrylates or methacrylates, polyvalent vinyls, polyvalent epoxides, polyvalent isocyanates, polyvalent allyls and oligomers or polymers comprising a crosslinkable functional group.

3. The process of claim **1** wherein said embossing is carried out at a temperature near or above the glass transition temperature of said thermoplastic, thermoset or precursor thereof.

4. The process of claim **1** wherein the male mold is released before, during or after the embossed layer is hardened.

5. The process of claim **1** wherein said radiation curable composition comprises a material selected from the group consisting of polyvalent acrylates or methacrylates, polyvalent vinyls, polyvalent epoxides, polyvalent isocyanates, polyvalent allyl and oligomers or polymers comprising a crosslinkable functional group.

6. The process of claim **1** wherein said imagewise exposing is accomplished by UV, visible light, near IR or electron beam radiation.

7. A process for the manufacture of a semi-finished display panel, which process comprises the steps of:

a) coating a layer of a thermoplastic, thermoset or precursor thereof on a conductor layer or a permanent substrate layer followed by embossing the coated layer with a male mold or imagewise exposing a layer of a radiation curable composition coated on a conductor layer or a permanent substrate layer followed by removing unexposed areas, to form an array of microcups;

b) filling the microcups with a charged pigment dispersion in a dielectric solvent or solvent mixture;

c) top-sealing the microcups with a sealing composition having a specific gravity lower than that of said dielectric solvent or solvent mixture; and

d) applying a temporary substrate layer onto the top-sealed microcups.

8. The process of claim **7** wherein said thermoplastic or thermoset precursor is selected from the group consisting of polyvalent acrylates or methacrylates, polyvalent vinyls, polyvalent epoxides, polyvalent isocyanates, polyvalent allyls and oligomers or polymers comprising a crosslinkable functional group.

9. The process of claim **7** wherein said embossing is carried out at a temperature near or above the glass transition temperature of said thermoplastic, thermoset or precursor thereof.

10. The process of claim **7** wherein the male mold is released before, during or after the embossed layer is hardened.

11. The process of claim **7** wherein said radiation curable composition comprises a material selected from the group consisting of polyvalent acrylates or methacrylates, polyvalent vinyls, polyvalent epoxides, polyvalent isocyanates, polyvalent allyl and oligomers or polymers comprising a crosslinkable functional group.

12. The process of claim **7** wherein said imagewise exposing is accomplished by UV, visible light, near IR or electron beam radiation.

13. A process for the manufacture of a multi-color semi-finished display panel, which process comprises the steps of:

a) coating a layer of a thermoplastic, thermoset or precursor thereof on a temporary substrate layer followed by embossing the coated layer with a male mold or imagewise exposing a layer of a radiation curable composition coated on a temporary substrate layer followed by removing unexposed areas, to form an array of microcups;